

NEW SPECIES AND RECORDS OF *DIPLOCHORDA* OSTEN SACKEN (DIPTERA: TEPHRITIDAE: PHYTALMIINAE) FROM THE ISLAND OF NEW GUINEA

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Abstract

Three new species of *Diplochorda* Osten Sacken are described from New Guinea: *D. buloloe* sp. n. and *D. macalpinei* sp. n. from Papua New Guinea and *D. mimika* sp. n. from Papua Province, eastern Indonesia. The males of *D. myrmex* Osten Sacken and *D. ophion* Osten Sacken are newly recorded and additional localities are noted for them, *D. aneura* Malloch, *D. brevicornis* (Saunders), *D. concisa* (Walker), *D. minor* Malloch, *D. trilineata* de Meijere and *D. unistriata* Malloch. Records of *D. australis* Permkam & Hancock from Papua New Guinea are referred to *D. buloloe*, with *D. australis* thus confined to the Iron Range area of northern Queensland. A key to the 12 known species of *Diplochorda* is included.

Introduction

The genus *Diplochorda* Osten Sacken, 1881 was reviewed and keyed by Hancock (2016). As a result, it became possible to identify unsorted material in the Natural History Museum, London (NHMUK, formerly BMNH: specimen numbers NHMUK010579879 to 010579889) that, together with material in the Australian Museum, Sydney (AM) and Queensland Museum, Brisbane (QM), has resulted in the new species and new distribution records presented below. Twelve species of *Diplochorda* are now known, with the genus confined to the main island of New Guinea and the adjacent Salawati and Japen Islands, plus northeastern Australia.

New species

Diplochorda buloloe sp. n.

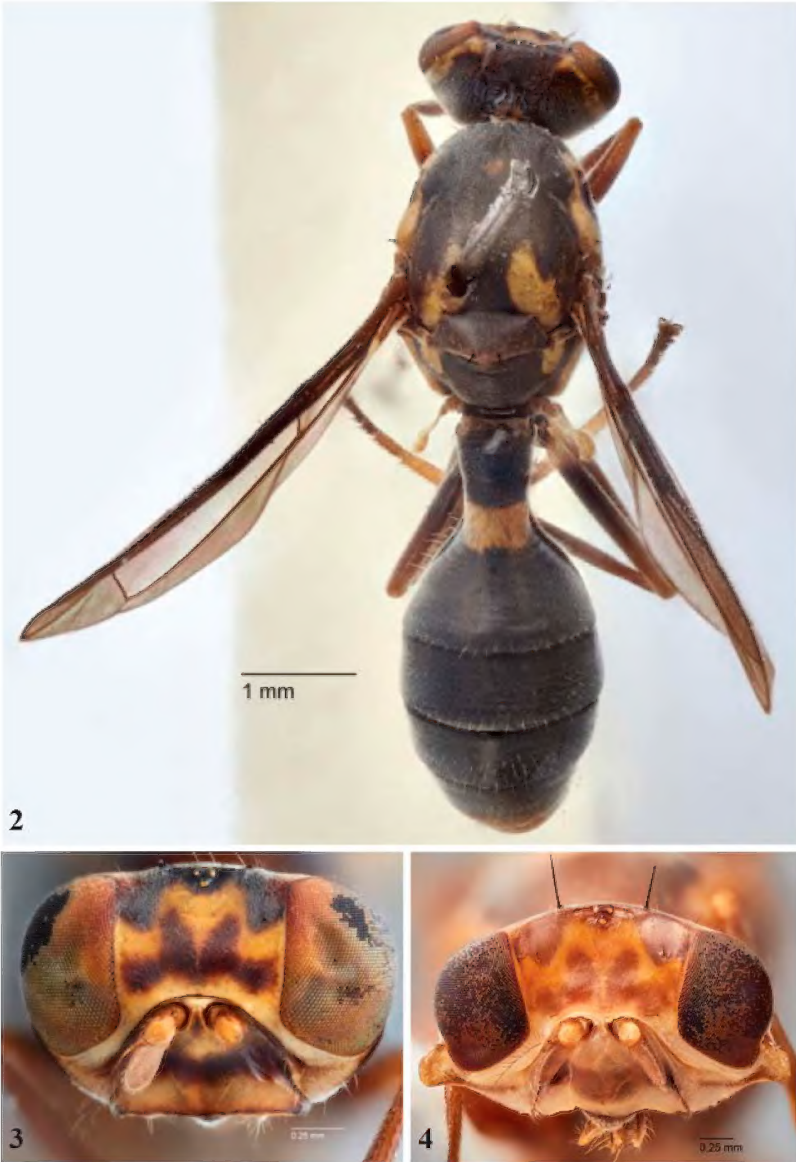
(Figs 1-6)

Type material. Holotype ♀, PAPUA NEW GUINEA (MOROBE PROVINCE): 'under *Musa* leaf, Stony Logging Area, near Bulolo, PNG, 2.viii.1979, H. Roberts' / '1122' (in AM: K493858). Paratype ♂, same data as holotype except '1122/E' (in AM: K493857).

Description. Female (Figs 1-2). Length (excluding ov scape) 6.9 mm; wing 6.4 mm. Head about as high as long and largely fulvous; 1 frontal, 2 weak orbitals, the upper weaker, 1 strong vertical and a row of thin black postocular setae. Frons (Fig. 3) very broad, with a pair of black submedial oval and anterolateral rounded markings connected anteriorly and black areas surrounding the orbital setae connected to occipital black area posteriorly. Face (Fig. 3) distinctly concave, fulvous with a black medial band equidistant from antennal bases and epistome. Antenna fulvous, about half length of face, with third segment apically rounded and about 2.5 times length of second segment; arista plumose. Gena weakly expanded and eye margin slightly constricted. Occiput black except narrowly yellow along eye margin.



Fig. 1. *Diplochorda bulloae* sp. n., holotype female, lateral view. Photo by Geoff Thompson © Queensland Museum, Brisbane.



Figs 2-4. *Diplochorda buloloae* sp. n: (2) holotype female, dorsal view; (3) holotype female, face and frons; (4) paratype male, face and frons. Photos by Geoff Thompson © Queensland Museum, Brisbane.

Thorax (Figs 1-2) with scutum black with yellow areas as follows: posterior two-fifths of postpronotal lobe; notopleural lobe; an indistinct medial spot just anterior to line of suture; a pair of posterolateral vittae broadly separated by black medial area, reaching about half way to suture anteriorly and directed laterally posteriorly; upper half of anatergite (remainder black); katatergite; a narrow band connecting postpronotal lobe and notopleural callus, continuing as a narrow stripe across posterodorsal corner of anepisternum and vertically over anepimeron and onto sternopleuron as a narrow spot. Remainder of pleura and sternum black. Scutellum blackish brown, with 1 pair of apical setae. Mediotergite black with yellow anterolateral spots. Haltere dark fulvous.

Legs (Fig. 1) largely blackish-brown; fore femur fulvous over basal quarter; mid femur fulvous over basal sixth; hind femur red-brown, fulvous over basal fifth; mid and hind tarsi with first segment fulvous on inner surface, fuscous on outer surface; mid tibia with 1 long and 2 short apical spines.

Wing (Fig. 5) hyaline with a brown costal band reaching but not crossing vein R_{4+5} and a faint infuscation in cell cu_1 that does not form a distinct dark band along vein Cu_1 ; cell bcu apically acute but not extended into a lobe; venation typical of genus, with vein M strongly arcuate and cell dm hatchet-shaped.

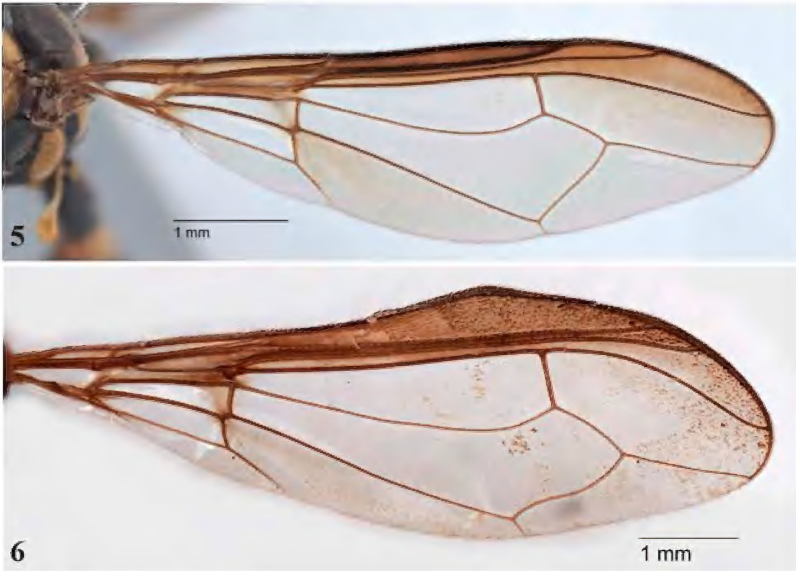
Abdomen (Fig. 2) narrowly petiolate; tergites I+II large, black with a narrow yellow medial band separated from hind margin by about twice its own length; tergites III-VI black except tergite V weakly fulvous along posterior margin and tergite VI broadly fulvous posteromedially. Oviscape (Fig. 1) red-brown, narrowing and tubular posteriorly, about as long as tergites IV-VI.

Male. Similar to female except: head with genal processes broad and well developed (Fig. 4); scutum with yellow anterior spot larger and expanded laterally by fulvous areas (due to tenacity?); scutum with yellow posterolateral vittae slightly larger; costa strongly arched (Fig. 6); mediotergite broadly fulvous medially in addition to anterolateral yellow spots; abdomen shrivelled and characters not discernible.

Etymology. Named after the township of Bulolo, close to the type locality.

Distribution. Known only from Morobe Province, Papua New Guinea.

Comments. The male abdomen is damaged and shrivelled; hence the female, which is in good condition, is selected as the holotype. This species closely resembles *D. australis* Permkam & Hancock from NE Queensland and *D. brevicornis* (Saunders) from West Papua Province, Indonesia and previous records of the former from Papua New Guinea (Permkam and Hancock 1995, Hancock 2016) are misidentifications of *D. buloloae*. It differs from *D. australis* in the reduced yellow areas on the scutum and from both species in the lack of a distinct brown band in wing cell cu_1 along vein Cu_1 .



Figs 5-6. *Diplochorda buloloae* sp. n., wings: (5) holotype female; (6) paratype male. Photos by Geoff Thompson © Queensland Museum, Brisbane.

***Diplochorda macalpinei* sp. n.**

(Figs 7-10)

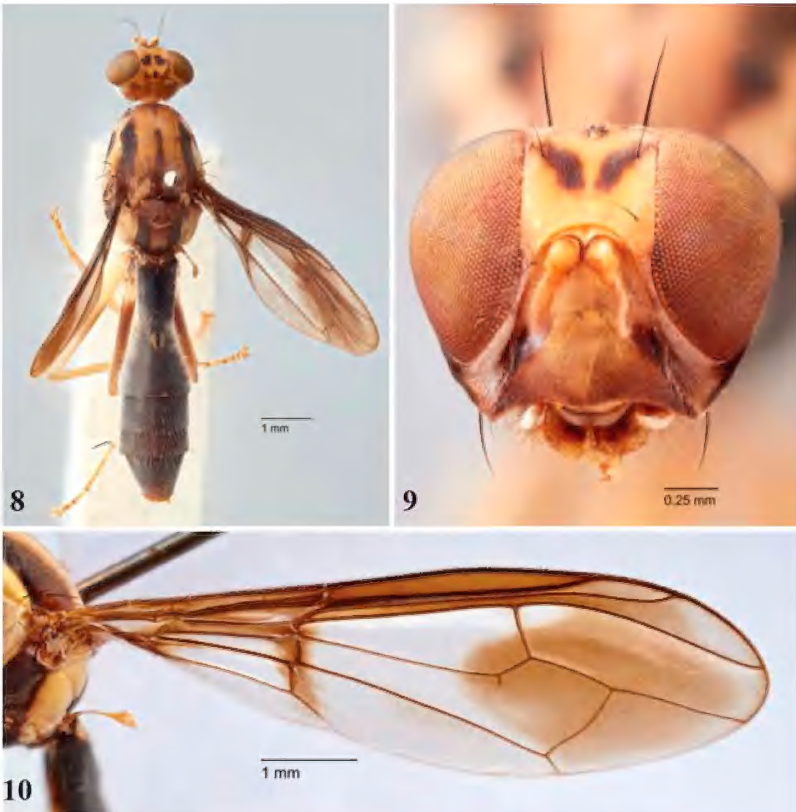
Type material. Holotype ♂, PAPUA NEW GUINEA (EAST SEPIK PROVINCE): 'Imbia, near Maprik, TPNG, 18.xii.1963, D.K. McAlpine' / '*Diplochorda* sp. B wing' (in AM: K493829).

Description. Male (Figs 7-8). Length 8.8 mm; wing 7.1 mm. Head higher than long and largely fulvous; 1 frontal, 2 weak orbitals, the upper weaker, 1 strong vertical and a row of thin black postocular setae. Frons (Fig. 9) broad with a pair of isolated, blackish brown crescent-shaped markings medially that are well separated from anterior margin and faintly reach eye margin over orbital setae. Face (Fig. 9) fulvous and distinctly concave, with epistomal margin slightly darker and a pair of oblique blackish brown spots laterally. Antenna dark fulvous, about half length of face, with third segment apically rounded and about 2.5 times length of second segment; arista plumose. Gena weakly expanded as a narrow ridge and with a black stripe from lower, slightly constricted eye margin to epistome; seta present. Occiput dark fulvous, paler along eye margin around postocular setae.

Thorax (Figs 7-8) with scutum orange-brown with broad lateral and narrow medial black vittae, the medial vitta broadly interrupted anterior to line of suture and broadening towards posterior margin. Yellow areas are as follows:



Fig. 7. *Diplochorda macalpinei* sp. n., holotype male, lateral view. Photo by Geoff Thompson © Queensland Museum, Brisbane.



Figs 8-10. *Diplochorda macalpinei* sp. n., holotype male: (8) dorsal view; (9) face and frons; (10) wing. Photos by Geoff Thompson © Queensland Museum, Brisbane.

posterior half of postpronotal lobe (anterior half dark brown); notopleural lobe; a narrow band connecting postpronotal lobe and notopleural lobe, continuing as a narrow stripe across dorso-posterior corner of anepisternum and vertically over anepimeron and onto sternopleuron as a narrow spot; anatergite and katatergite; posterolaterally on scutum. Remainder of pleura and sternum black. Single black setae on notopleural lobe and anepisternum. Scutellum dark brown, with 1 pair of apical setae. Postscutellum and mediotergite black with a broad fulvous medial stripe. Haltere dark fulvous.

Legs (Fig. 7) mostly pale fulvous; fore and mid femora darker fulvous medially, hind femur brown over medial three-fifths, fulvous over basal and apical fifths; tibiae and tarsi fulvous to dark fulvous; mid tibia with 1 long and 2 short apical spines.

Wing (Fig. 10) with brown costal band reaching vein R_{4+5} and expanding broadly across apex to include all except anterobasal corner of cell r_{4+5} , posteroapical corner of cell br, apical part of cell dm except along vein Cu_1 and cell m almost to apex of vein Cu_1 but not extending into cell cu_1 , leaving that cell almost entirely hyaline except for a narrow brown band at base that connects with the costal band over BM-Cu crossvein; apical margin of brown apical area subhyaline. Costal cells brown. R-M crossvein separated from DM-Cu crossvein by less than twice its own length. Cell bcu apically acute but not extended into a lobe. Costa weakly arched; vein M with a short spur vein extending into cell dm basal to R-M crossvein.

Abdomen (Figs 7-8) broadly petiolate; tergites I-II large and distinctly longer than terga III-V combined, black with a small medial yellow spot divided by a black vitta and a narrow medial yellow stripe on lateral margin (Fig. 7); tergites III-V black except tergite V weakly fulvous posteromedially. Genitalia fulvous; not dissected.

Female unknown.

Etymology. Named after Dr David McAlpine (Australian Museum, Sydney), who collected the only known specimen and has made major contributions to the study of Australasian Diptera.

Distribution. Known only from the type locality in East Sepik Province.

Comments. The wing pattern of *D. macalpinei* most resembles that of *D. mimika* sp. n. but, despite its very different wing pattern, it appears to be most closely related to *D. ophion* Osten Sacken, particularly in the orange-brown scutum with a narrow black medial vitta, mostly yellow face and legs and broadly petiolate abdomen. In *D. mimika* the scutal vittae are broader, the face black, the legs largely fuscous and the abdomen narrowly petiolate.

***Diplochorda mimika* sp. n.**

(Figs 11-16)

Type material. Holotype ♀, INDONESIA (PAPUA PROVINCE): 'Dutch New Guinea: Mimika River, vii.1910, A.F.R. Wollaston, 1911-229' / '*Diplochorda* ? new sp., D.K. McAlpine det.' (in NHMUK: NHMUK010579879).

Description. Female (Figs 11-16). Length (excluding oviscapae) 8.8 mm; wing 7.3 mm. Head (Figs 13-15) higher than long and largely fulvous; 1 frontal, 2 weak orbitals, the upper weaker, 1 strong vertical and a row of thin black postocular setae. Frons broad with a pair of black, crescent-shaped longitudinal markings. Face black and distinctly concave. Antenna brown, about half length of face, with third segment apically rounded and about 2.5 times length of second segment; [arista abraded]. Gena weakly expanded and with a black stripe from lower, slightly constricted eye margin to epistome; seta present. Lower occiput fuscous; upper occiput narrowly black behind ocellar triangle almost to eye margin.



Figs 11-14. *Diplochorda mimika* sp. n., holotype female: (11) lateral view; (12) dorsal view; (13) head, dorsal view; (14) head, frontal view. Photos © Natural History Museum, London.



Figs 15-16. *Diplochorda mimika* sp. n., holotype female: (15) lateral view of head and thorax; (16) wing. Photos © Natural History Museum, London.

Thorax (Figs 12, 15) with scutum red-brown with three broad medial and lateral black vittae, the lateral pair not reaching hind margin, the medial narrowing posteriorly and interrupted anterior to suture. Yellow areas as follows: posterior half of postpronotal lobe (remainder brown); notopleural lobe; posterior two-fifths of scutum except for medial vitta; anatergite and katatergite; a narrow band connecting postpronotal lobe and notopleural lobe, continuing as a narrow band across dorso-posterior corner of anepisternum and vertically over anepimeron and onto sternopleuron as a narrow spot.

Remainder of pleura and sternum black. Scutellum blackish brown, with 1 pair of apical setae. Postscutellum and mediotergite black with a broad fulvous medial stripe. Haltere dark fulvous.

Legs with coxae black, fore femur dark fulvous to red-brown, palest in apical half; mid femur red-brown, fulvous over basal third; hind femur dark red-brown, paler apically and fulvous over basal fifth; tibiae and tarsi dark red-brown; mid tibia with 1 long and 2 short apical spines.

Wing (Fig. 16) with brown costal band expanding broadly across R-M crossvein and apex of cell dm into cell m almost to apex of vein Cu₁ but not extending into cell cu₁, leaving that cell almost entirely hyaline except for a narrow brown band at base that connects with the costal band over BM-Cu crossvein. Costal cells subhyaline. R-M crossvein separated from DM-Cu crossvein by about twice its own length. Cell bcu apically acute but not extended into a lobe.

Abdomen (Fig. 12) broadly petiolate; tergites I+II large, with yellow medial band as broad as basal black band and separated from hind margin by about its own length; tergites III-VI black except tergite V weakly fulvous posteromedially and tergite VI broadly fulvous. Oviscape (Fig. 11) fulvous, narrowing and tubular posteriorly, about as long as tergites III-V; length 1.7 mm.

Male unknown.

Etymology. Named after the type locality, Mimika River.

Distribution. Known only from SW Papua Province, Indonesia.

Comments. *Diplochorda mimika* sp. n. most closely resembles *D. trilineata* de Meijere and its allies (couplets 9-11 in the following key), particularly in the thoracic, leg and abdominal markings; it differs in the more extensive wing pattern and black face. The hyaline wing cell cu₁ is shared with *D. unistriata* Malloch but that species additionally has the medial scutal vitta not or at most indistinctly interrupted near the suture and a broader yellow band on abdominal tergites I+II. It differs from *D. macalpinei*, which also has an extensive wing pattern and hyaline cell cu₁, in characters noted under that species. A relationship with the *trilineata* series suggests that males will have the genital processes represented by low ridges although a relationship with *D. myrmex*, which also has an extensive wing pattern, cannot be ruled out.

New locality records

Diplochorda aneura Malloch, 1939

PAPUA NEW GUINEA: Wutung, West Sepik Province, 12.xi.1985, J.W. Ismay (1 teneral ♂, in AM); Stephansport, Astrolabe Bay, Madang Province, 1894, Kunzmann (3 ♂♂, 2 ♀♀, in NHMUK). Described from Wewak, East Sepik Province.

Diplochorda brevicornis (Saunders, 1861)

INDONESIA: Fak Fak, [Onin Peninsula], West Papua Province, A.E Pratt per Janson (1 ♂, in NHMUK). Described from Manokwari (= Dorey), West Papua Province.

Diplochorda concisa (Walker, 1861)

INDONESIA: Fak Fak, [Onin Peninsula], West Papua Province, A.E. Pratt per Janson (1 ♂, in NHMUK). PAPUA NEW GUINEA: Aroana Estate, Aroa R., Central Province, 29-30.xi.1963, D.K. McAlpine (1 ♂, 1 ♀, in AM); Buri & Savipi nr Sasambata and Ongaho, all Popondetta subdistrict, Northern Province, 28.x.-1.xi.1963, D.K. McAlpine (2 ♂♂, 3 ♀♀, in AM); Ilimo nr Kokoda, Northern Province, 31.x.1963, D.K. McAlpine (1 ♀, in AM); Lae, Morobe Province, 6-7.ii.1967, G.B. Monteith (1 ♂, in QM). Hardy and Foote (1989) treated *D. concisa* and *D. turgida* (Walker, 1865) as separate species, regarding '*D. concisa*' of Malloch (1939) (1 ♀ det *concisa* from Mt Lamington examined, in AM) as a misidentification of *D. turgida*. Re-examination of their lectotypes (*concisa* ♀ [NHMUK010579890] and *turgida* ♂ [NHMUK010579891], in NHMUK) and a paralectotype ♂ of *D. turgida* (in QM), plus the occurrence of both taxa at Manokwari in West Papua Province, supports their synonymy. Described from Manokwari (*concisa*: labelled 'Dor. 68.4') and Salawati Island (*turgida*: labelled 'S. 68.4') and recorded from Ramoi (near Sorong) by Osten Sacken (1881), all in West Papua Province. A further synonym, *D. longistigma* (Perkins, 1939), was described from a female from Kokoda, Northern Province, Papua New Guinea.

Diplochorda minor Malloch, 1939

PAPUA NEW GUINEA: Gabensis, ca 20 mi SE [recte W] of Lae, Morobe Province, ca 100 m, 30.vi.1970, P.H. Colman (1 ♀, in AM); Stony Logging Area, nr Bulolo, Morobe Province, 28.iii.1979, herb layer lowland rainforest, H. Roberts, det. D.E. Hardy (1 ♂, in AM); Musgrave R. nr Port Moresby, Central Province, 950 m, 8.x.1963, D.K. McAlpine (1 ♀, in AM). Described from Bulolo, Morobe Province.

Diplochorda myrmex Osten Sacken, 1881

PAPUA NEW GUINEA: Aroana Estate, Aroa R., Central Province, 29.xi.1963 & 6.xii.1963, D.K. McAlpine (1 ♂, 1 ♀, in AM); 5 km NW of Brown River bridge, Central Province, forest, 6.ix.1984, J.W. Ismay (1 ♂, in AM). The newly recorded males have broad genal processes and a strongly arched costa. The Brown River bridge female recorded by Hancock (2016) (in NHMUK) is illustrated in Figs 17-18 but the abdomen is distinctly broader in other specimens. Described from Binaturi River (= Katau), Western Province.



Figs 17-18. *Diplochorda myrmex* Osten Sacken, female from 5 km NW Brown River bridge: (17) dorsal view; (18) wing. Photos © Natural History Museum, London.

Diplochorda ophion Osten Sacken, 1881

INDONESIA: Fak Fak, [Onin Peninsula], West Papua Province, A.E. Pratt per Janson (1 ♂, in NHMUK). PAPUA NEW GUINEA: Bubia, nr Lae,

Morobe Province, 27.xii.1963, D.K. McAlpine (1 ♂, in AM); 5 km S of Sirinumu Dam, Central Province, 800 m, forest, 15.vi.1986, J.W. Ismay (1 ♂, in AM). The newly recorded males have the genal processes represented by low ridges. The abdomen is distinctly yellow medially in the holotype and heavily infuscated in the Papua New Guinea specimens (with only a yellow tint evident) but the Fak Fak specimen (Figs 19-20) is intermediate, suggesting that all are conspecific. This species, described by Osten Sacken (1881) from Hatam, near Manokwari in West Papua Province, had not been illustrated previously. It is newly recorded from Papua New Guinea.



Figs 19-20. *Diplochorda ophion* Osten Sacken, male from Fak Fak: (19) dorsal view; (20) wing. Photos © Natural History Museum, London.

Diplochorda trilineata de Meijere, 1915

INDONESIA: Sewau Res., Serui, [Japen Island], Papua Province, 12.iii.1958, R.T. Simon Thomas (1 teneral ♂, in AM). PAPUA NEW GUINEA: Aitape, West Sepik Province, F.H. Taylor (1 ♀, in AM); Bainyik, Imbia & Kuminibur, near Maprik, East Sepik Province, 17-22.xii.1963, D.K. McAlpine (3 ♂♂, 2 ♀♀, in AM); Stephansport, Astrolabe Bay, Madang Province, 1894, Kunzmann (1 ♀, in NHMUK). Specimens from Wewak and Maprik recorded as '*D. myrmex*' by Malloch (1939) (3 ♂♂, in AM) are confirmed as misidentifications of *D. trilineata*. Described from Jayapura district, NE Papua Province and recorded from Madang by Hancock and Drew (2003).

Diplochorda unistriata Malloch, 1939

PAPUA NEW GUINEA: Upper Manki Logging Area, nr Bulolo, Morobe Province, 5000', xii.1972-iii.1973, F.R. Wylie & P. Shanahan, sticky trap (13 ♂♂, 13 ♀♀, in AM); Stony Logging Area, near Bulolo, Morobe Province, 20.vi.1979, under *Musa* leaf, H. Roberts (1 ♂, 1 ♀, in AM). Described from Mondo, Central Province and recorded from Arau nr Kainauto, Eastern Highlands Province by Hancock and Drew (2003).

Revised key to *Diplochorda* species

- 1 Wing with apex of costal band extending broadly across R-M crossvein and apex of cell dm and into cell m almost to vein Cu₁ 2
- Wing with apex of costal band not extending broadly across apex of cell dm into cell m almost to vein Cu₁ 4
- 2 Wing with hyaline discal area hatchet-shaped, subquadrate in centre of wing, extending along its length anteriorly across vein R₄₊₅ to vein R₂₊₃; cell cu₁ almost entirely brown; male with broad genal processes [Papua New Guinea (Western and Central Provinces); *Nesadrama petiolata* Hardy, 1974 is a synonym] *D. myrmex* Osten Sacken, 1881
- Wing with hyaline discal area elongate; cell cu₁ hyaline except extreme base; male unknown or with genal processes represented by low ridges 3
- 3 Face yellow with a pair of oblique black spots; wing cell r₄₊₅ with a hyaline indentation anterobasally; legs largely fulvous [Papua New Guinea (East Sepik Province)] *D. macalpinei* **sp. n.**
- Face entirely black; wing cell r₄₊₅ entirely brown; legs largely fuscous [eastern Indonesia (SW Papua Province)] *D. mimika* **sp. n.**
- 4 Thorax with scutum anterior to suture largely or entirely black, without distinct longitudinal yellow vittae; male with broad genal processes 5
- Thorax with scutum anterior to suture yellow with 3 longitudinal black vittae; male with genal processes represented by low ridges 8

- 5 Wing with costal band crossing R-M crossvein and filling most of cell r_{4+5} [northern Papua New Guinea (West Sepik, East Sepik and Madang Provinces); wing and head illustrated by Malloch (1939)] *D. aneura* Malloch, 1939
- Wing with costal band not crossing R-M crossvein and filling none or only part, faintly, of cell r_{4+5} 6
- 6 Scutum posterior to suture largely yellow with a medial longitudinal black vitta [Australia (Iron Range, northern Qld); records from Papua New Guinea are misidentifications; illustrated by Permkam and Hancock (1995)] *D. australis* Permkam & Hancock, 1995
- Scutum posterior to suture largely black with only narrow posterolateral yellow patches 7
- 7 Wing vein Cu_1 infuscated and cell cu_1 with a brown band in anterior half [eastern Indonesia (West Papua Province); illustrated by Saunders (1861: male only)] *D. brevicornis* (Saunders, 1861)
- Wing vein Cu_1 not infuscated and cell cu_1 with at most a very faint infuscation in anterior half [Papua New Guinea (Morobe Province)] *D. buloloae* **sp. n.**
- 8 Legs yellow with faint vestiges of a brownish ring on femora; abdomen medially broadly yellow with a varying density of infuscation and yellow band on tergite 1+2 large and reaching or almost reaching hind margin of segment; wing cell cu_1 mostly brown [eastern Indonesia (West Papua Province) and Papua New Guinea (Central and Morobe Provinces)] *D. ophion* Osten Sacken, 1881
- Legs with mid and hind femora broadly brown to black medially; abdomen mostly brown to black, often paler posteriorly and with yellow band on tergite 1+2 normally small and separated from hind margin by more than half its length, if larger then wing cell cu_1 hyaline 9
- 9 Wing cell cu_1 hyaline; face yellow; abdomen with yellow band on tergite 1+2 large, separated from hind margin by less than half its length [Papua New Guinea (Central, Morobe and Eastern Highlands Provinces above 1200 m)] *D. unistriata* Malloch, 1939
- Wing cell cu_1 brown at least anteriorly; face with a pair of black spots or band near epistome; abdomen with yellow band on tergite 1+2 small, separated from hind margin by about its own length or more 10
- 10 Wing with costal band crossing R-M crossvein and filling all or most of cell r_{4+5} [eastern Indonesia (northern Papua Province) and northern Papua New Guinea (West Sepik, East Sepik and Madang Provinces); ‘*D. myrmex*’ of Malloch (1939) is a misidentification; wings illustrated by Malloch (1939)] *D. trilineata* de Meijere, 1915

- Wing with costal band not crossing R-M crossvein and filling none or only part, faintly, of cell r_{4+5} 11
- 11 Wing with costal band not crossing vein R_{4+5} into cell r_{4+5} or at most very faintly; brown band along vein Cu_1 in cell cu_1 not extending into cell dm in female and only very weakly so in male; dark band on lower part of face in male narrow and not reaching epistome [Papua New Guinea (Central and Morobe Provinces); wing illustrated by Malloch (1939)] *D. minor* Malloch, 1939
- Wing with costal band usually crossing vein R_{4+5} into apical half to two-thirds of cell r_{4+5} in its anterior half and often extending weakly as a narrow patch almost to apex of vein M; brown band along vein Cu_1 in cell cu_1 extending narrowly into cell dm in female and broadly in male; dark band on lower part of face in male broad and reaching epistome [eastern Indonesia (West Papua Province) and Papua New Guinea (Central, Northern and Morobe Provinces); *Dacus turgidus* Walker, 1865 and *Nesadrama longistigma* Perkins, 1939 are regarded as synonyms; male illustrated by Saunders (1861, as '*Elaphomyia brevicornis* female', a misidentification) and female wing illustrated by Perkins (1939, as '*N. longistigma*')] *D. concisa* (Walker, 1861)

Discussion

The twelve known species fall into two groups: the *brevicornis* group of five species has the male genital processes broad and well developed, while the *concisa* group of seven species [provisionally including *D. mimika*] has these processes reduced to a narrow ridge (apomorphy?). Broad genital processes are also present in the related genus *Ortaloptera* Edwards and are thus considered to be the plesiomorphic state within *Diplochorda*.

Within the *brevicornis* group, *D. myrmex* stands apart in having a shortened cell dm and extensively dark wing yet retains the typical scutal pattern of broad black lateral and medial vittae, the medial interrupted near the suture. In the remaining species the scutum is extensively black, especially in the anterior portion. The dark costal band is broad in *D. aneura* and narrow in *D. brevicornis*, *D. buloloae* and *D. australis*, these latter three species apparently forming a related trio. All five species are allopatric.

Within the *concisa* group two species stand apart: *D. macalpinei* and *D. ophion* have distinctly paler legs and scutum, the black medial vitta of the scutum being narrow instead of the typically broad vitta of the remaining species. Although *D. mimika* has a wing pattern similar to that of *D. macalpinei* other characters, particularly the scutal markings and more distinctly petiolate abdomen, suggest a closer relationship with the remaining species, which appear to form a close-knit group: *D. trilineata* is separated by its broad costal band; *D. unistriata* has a hyaline cell cu_1 ; *D. minor* and *D. concisa* are only weakly differentiated and possibly conspecific.

Distributions are imperfectly known for most species but some inferences can be made. Two species, *D. concisa* and *D. ophion*, are known from both West Papua Province and SE Papua New Guinea but their distributions are likely to be widespread rather than disjunct, the intermediate areas being poorly collected. Three species, *D. aneura*, *D. trilineata* and *D. macalpinei*, are known only from lowland forests north of the Central Range, covering the northern part of Indonesian Papua Province (including Japen Island) and the Papua New Guinean Provinces of West Sepik, East Sepik and Madang; no other species have been recorded from this area.

The remaining species have more restricted distributions in the western, southern and eastern parts of mainland New Guinea or (*D. australis*) the Iron Range area of Cape York Peninsula, Australia. The related *D. brevicornis* and *D. buloloae* are known only from West Papua and Morobe Provinces, respectively; *D. mimika* is known only from SW Papua Province and *D. myrmex* only from southern Papua New Guinea; *D. unistriata* is known only from highland areas in Central, Eastern Highlands and Morobe Provinces; *D. minor* is known only from Central and Morobe Provinces.

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